Testimony at Hearing

The purpose of the Committee was to develop a report and/or proposed rule relating to the types of scientific data and other information that will be considered for making the preliminary determinations required to prepare a report pursuant to Neb. Rev. Stat. § 46-713(d) (Reissue 2004).

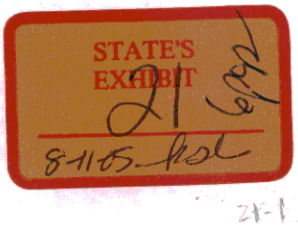
The Committee was also charged with developing the criteria that will be used for making the required preliminary determinations of: (1) whether a river basin, subbasin, or reach is fully appropriated without the initiation of additional uses, and (2) the geographic area within which the Department considers surface water and ground water to be hydrologically connected for the purposes of any such determination, pursuant to the evaluations and reports that the Department must complete by January 1, of each year beginning in 2006, required by section 46-713 N.R.S. 1943, as amended.

The Committee met a total of seven times. Following its initial meeting in December, subsequent meetings of the Committee reviewed information relating to levels of interference and degrees of hydrologic connectivity and considered whether such information could be utilized to arrive at the formulation of a possible rule. Dr. Raymond J. Supalla, an agricultural economist and professor and assistant dean in the College of Technical Agriculture, provided to the Committee a method for doing an economic analysis of the amount of water that would be needed for the irrigation of crops in order to make the investment in irrigation economically beneficial. Jeff Shafer and James Cannia, both from the Department provided examples of an analysis that could be used to determine the amount of flow expected to be available without further development in a river basin. Shafer and Cannia also provided maps for comparison purposes showing various degrees of connectivity of ground water to streams in certain river basins in the state.

During the last few meetings of the Committee, the group considered at length various draft rules proposed by groups of Committee members and the Department. These meetings included considerable discussion of the various proposals regarding (A) the types of scientific data and other information that will be considered for making the preliminary determinations pursuant to Neb. Rev. Stat. § 46-713(d) (Reissue 2004) and the criteria that will be used for making preliminary determinations of: (B) whether a river basin, subbasin, or reach is fully appropriated without the initiation of additional uses, and (C) the geographic area within which the Department considers surface water and ground water to be hydrologically connected for the purposes of any such determination.

A draft report was circulated to the Committee prior to finalization. Committee members were provided an opportunity to include additional information, recommendations, or additional materials as an addendum to the report.

The Department received comments from 13 of the 17 members of the Negotiated Rulemaking Committee. The Director reviewed the comments, and made revisions to the draft Report based on some of the comments received. The Exhibits to the draft Report include copies of the



written comments received from members of the Negotiated Rulemaking Committee, as well as copies of the materials considered by the Negotiated Rulemaking Committee during its meetings. I offer the draft Report, marked as Exhibit 6, which includes exhibits to the report, into the record.

Based on the discussions of the Negotiated Rules Committee, the comments on the Report and further discussions with Dr. Raymond Supalla and Dr. Derrel Martin, an agricultural engineer in the Department of Biological Systems Engineering at the University of Nebraska, the Director made further revisions to the proposed rules.

No one on the committee expressed disagreement on section 002 of the proposed rule that states that the types of scientific data and other information to be considered for making preliminary determinations shall include:

1) Surface water administrative records

2) Department hydrographic reports

3) Department and USGS stream gage records

4) Department registered well database

5) Water level records and maps from Natural Resources Districts, the Department, the University of Nebraska, the United States Geologic Survey (USGS) or other publications subject to peer review

6) Technical hydrogeological reports from the University of Nebraska, the USGS, or other publications subject to peer review

7) Ground water models

8) Current rules and regulations of the Natural Resources Districts

9) Best scientific information and tools available to the Department to identify impacts of "hydrologically connected" uses to the basin, subbasin, or reach being considered

There was not a unanimous consensus on the second part of the rule: the criteria that will be used for making the required preliminary determinations of: (1) whether a river basin, subbasin, or reach is fully appropriated without the initiation of additional uses, and (2) the geographic area within which the Department considers surface water and ground water to be hydrologically connected for the purposes of any such determination, for the evaluations and reports that the Department must complete by January 1, of each year beginning in 2006, required by section 46-713 N.R.S. 1943, as amended.

1. Whether a river basin, subbasin, or reach is fully appropriated without the initiation of additional uses

The proposed rules state:

> "For purposes of Section 46-713(3)(a), the surface water supply for a river basin, subbasin, or reach shall be deemed insufficient, if, after considering the impact of the lag effect from existing groundwater pumping in the hydrologically connected area that will deplete the water supply within the next 25 years, it is projected that during the period of May 1 through September 30, inclusive, any irrigation right will be unable to divert sufficient surface water to meet on average eighty-five percent of the annual crop irrigation requirement, or, during the period of July 1 through August 31, inclusive, will be unable to divert sufficient surface water to meet at least sixty-five percent of the annual crop irrigation requirement.
>
> For purposes of this rule, the "annual crop irrigation requirement" will be determined by the annual irrigation requirement for corn. This requirement is based on the average evapotranspiration of corn that is fully watered to achieve the maximum yield and average amount of precipitation that is effective in meeting the crop water requirements for the area."

These crop irrigation criteria were based on Supalla's economic analysis of how much irrigation water would be needed to justify investment in an irrigation system for a 130 acre field. I offer Supalla's economic analysis spreadsheet, marked as Exhibit 7, into the record. This criterion was chosen because most junior water rights in the state are for irrigation and the predominant crop grown is corn. The crop irrigation requirement for corn, which varies greatly across the state, will be determined by Derrel Martin and will be available on the Department's web site. . I offer Martin's economic analysis spreadsheet, marked as Exhibit 8, into the record
In the event that the junior water rights are not irrigation rights, the Department will utilize a standard of interference appropriate for the use, taking into account the purpose for which the appropriation was granted.

Several committee members argued that the criterion should not be based on an economic analysis of current day conditions but should consider whether the water right being considered was able to divert the amount of water expected to be available at the time the permit was granted. The Department determined that the economic analysis based on current conditions could result in more reliable data than speculating on previous expectations and was more appropriate for making the determination of which basins were currently fully appropriated.

In determining whether a river basin, subbasin, or reach is fully appropriated without the initiation of additional uses, the Department will first determine the percentage of time over the previous twenty years that surface water appropriators located within a basin, subbasin, or reach were able to divert. This determination will be based on the water administration records of the

Department that delineate which water rights were shut off because of insufficient stream flow. In so doing it will be assumed that if a surface water diverter was not shut off, they would be able to divert at their permitted rate. The most recent twenty year period was chosen to reflect the most recent development in the basin and a sufficient number of years to include both wet and dry weather patterns.

The depletions to stream flow from the future lag effect of existing ground water wells over the next 25 years will be determined and the above determination of the ability to divert will be adjusted accordingly. The determination of the lag effect from existing wells will be based on ground water models using MODFLOW or other suitable model codes, where such models exist, and in the absence of a suitable groundwater model, the Jenkins method.[1, 2] The Committee did not agree on the length of the time period that should be used when calculating the lagged impact of ground water pumping on stream flow; periods ranging from 10 years to 50 years were suggested. The Department determined that a period of 25 years would reflect a reasonable ability to estimate depletions given the current state of our knowledge and a reasonable planning horizon.

In addition, the Committee did not reach a consensus that these were the only factors that should be considered. Other factors were suggested, however none of these suggestions indicated any methods that could be used to include these factors.

2. The geographic area within which the Department considers surface water and ground water to be hydrologically connected for the purposes of any such determination

Although not unanimous, there was general consensus on the Committee that the geographic area within which the Department considers surface water and ground water to be hydrologically connected for the purposes of any such determination should be based on an assessment of the amount of time that it would take for depletions from a well a certain distance from the stream to cause a depletion to the stream equal to a certain percentage of the amount of water pumped by the well over the same period. Any well within the boundary produced by this assessment would be considered hydrologically connected to the stream.

The Department proposed that this boundary be determined using the best ground water models available for the area. Where no valid ground water model exists, the determination would be based on the Jenkins method. The Jenkins method is the best sound science approach currently available for use when the robust data sets needed to develop a valid ground water model are absent. This method has a long history of use for similar water administration purposes in other states.

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[1] Jenkins, C.T. *Techniques for Computing Rate and Volume of Stream Depletion by Wells*, Groundwater Volume 6, Number 2. 1968.

[2] Jenkins, C. T. Techniques of Water Resources Investigations of the United States Geological Survey, Chapter D1, Computation of Rate and Volume of Stream Depletion by Wells, Book 4, Hydrologic Analysis and Interpretation, 1970

Several Committee members questioned the accuracy of the Jenkins method for determining hydrological connectivity. A 1995 paper by Sophocleous, Koussis, Martin and Perkins was cited as stating that the method was unreliable.[3] Sophocleous' paper compared the predictive capabilities of the Glover analytical model[4], the model from which the Jenkin's method was derived, against the reliable numerical standard offered by MODFLOW for a well eighty meters from a stream pumping for 120 days under increasingly complex conditions. This paper concluded that for a well this close to a stream and pumping for this short a time period, the range of discrepancy between the analytical solution and MODFLOW becomes magnified and that the analytical Jenkins method consistently overestimated stream depletions, thus resulting in more conservative decisions. However, the results of this evaluation for a well this close to a stream and pumping for this short time frame, have little validity for an analysis of a well several miles from a stream and pumping for several decades. In such cases, the impact of the major factors of concern are considerably less. Dick Luckey, from the U. S. Geological Survey examined Sophocleous's paper and determined Sophopcleous's use of constant head lateral boundaries was a major reason that there were differences between the analytical and numerical models. When the boundaries were changed the differences were within 2%. Luckey concluded that analytical solutions can be used to estimate stream depletions and estimates made close to the stream and in early times are more likely to be in error than estimates made further from the stream and at later times. Thus, when used on a regional scale and over longer periods of the factors that cause the errors cited in the paper have much less impact.

During the course of the Committee's meetings, the Department was requested to and did provide sample maps, using readily available information on hydraulic conductivities and storativity and applying the Jenkins method.[5] These maps depicted the possible geographic location of stream depletion lines for the following tolerances:

5%/50 years	.01%/100 years
10%/50 years	5%/100 years
15%/50years	15%/75 years
25%/50 years	50%/10 years
2.5%/50 years	1%/50 years
28%/40 years	

The Department suggested that the geographic area within which surface water and ground water should be considered hydrologically connected should be the area within which pumping a well for 50 years will deplete the river or a base flow tributary thereof by at least 10% of the amount pumped in that time.

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[3] Sophocleous, Marios, Antonis Koussis, J.L. Martin, and S.P. Perkins. *Evaluation of Simplified Stream-Aquifer Depletion Models for Water Rights Administration.* Groundwater Volume 33, No. 4. 1995.

[4] Glover, R.E. and C. G. Balmer. *River Depletion Resulting from Pumping a Well Near a River.* American Geophysical Union Transactions. Volume 35, No. 3. 1954.

[5] These maps are not the maps that will be used for making the actual determination of hydrologic connectivity.

There was no consensus on the percentages and time period for this criterion. A number of Committee members argued that the extent of connectivity should be the 28%/40 year line whereas others strongly promoted a level of connectivity closer to 1% - 5% in 100 years. Those arguing for the 28%/40 year line did so in part based on the fact the 28%/40 year line was used for the designation of the overappropriated area in the Platte River Basin and is being used in the Platte River Cooperative Agreement. However in both of these instances, the intent of the line was for other purposes; it was not to intended to define the level of hydrologic connectivity.

In choosing the 10%/50 year criterion, the Department tried to delineate a line beyond which the depletive effects of wells would have a de minimis impact on stream flows within the 25 year planning horizon.

In discussions with Committee members and others, the concern was raised that because the 10%/50 year delineation would cause management areas to extend across Natural Resources Districts' boundaries, it would be very difficult to implement a management plan. This problem occurs because groundwater aquifer divides do not coincide with the administrative boundaries of the Natural Resources Districts and wells pumping in one Natural Resources District can affect stream flow in another Natural Resources District. This problem was anticipated by the legislature and hence the Statutes in Section 46-703 (4) state "The legislature recognizes that ground water use or surface water use in one natural resources district may have adverse affects on water supplies in another district or in an adjoining state. The Legislature intends and expects that each natural resources district within which water use is causing external impacts will accept responsibility for ground water management in accordance with the Nebraska Ground Water Management and Protection Act in the same manner and to the same extent as if the impacts were contained within that district." In such cases it is the expectation of the Department that a single plan for the area that will accomplish the required goals of the statutes will be developed jointly by the Department and the affected Natural Resources Districts and that the plan will be implemented by the Natural Resources District that has jurisdiction over the land involved.

At this time, I would like to offer the following additional Exhibits into the record:

Correspondence in opposition to a Department rule which would utilize a 10%/50 year delineation, as follows:

Exhibit 9, copy of a Nebraska Association of Resources District Resolution dated June 20, 2005, received via email from Ron Bishop, manager of the Central Platte Natural Resources District.

Exhibit 10, a letter from the Nebraska Electric Generation and Transmission Cooperative, Inc. dated June 27, 2005, and Resolution dated June 24, 2005.

Exhibit 11 a letter from the Southern Power District dated May 17, 2005, and Resolution dated May 11, 2005.

Other Exhibits, as follows:

Upper Elkhorn Natural Resources District
301 N. Harrison Street – O'Neill, Nebraska 68763
(402) 336-3867 – FAX (402) 336-1832

EXHIBIT
22
8-11-05

Testimony: DNR Rules & Regulations on defining Fully Appropriated
August 11, 2005
Kearney, Nebraska

Good morning; my name is Dale Wiles and I am testifying on behalf of the Upper Elkhorn NRD. I am currently the Chairman of the Upper Elkhorn NRD's Water Resources & Watershed Committee. I appreciate the opportunity to testify on the Rules & Regulations that have been presented today because it involves one of Nebraska's greatest resources……..water.

Having attended various meetings held by the Water Policy Task Force and the Negotiated Rule Making Committee it was evident that the members have struggled on making some important decisions or coming to consensus. A couple of those decisions that consensus could not be reached by the Negotiated Rule Making Committee was the 10/50 boundary line; and the 85% and 65% annual surface water diversions for crop irrigation requirements that are being proposed by DNR today.

The Upper Elkhorn NRD passed a motion at our June Board meeting to oppose the 10/50 line and support the 28/40. The UENRD's action supports the position the NARD has taken on this issue.

The Upper Elkhorn NRD does not agree with how the proposed 10/50 standard line has been determined to be the best standard for hydrologic interconnection between ground and surface water. Various proposals for this standard have been discussed and none of them truly had any technical merit of why one should be supported over the other. The standard that most people became aware of was the 28/40 line. This 28/40 line has been used in determining areas of the State that have been determined over-appropriated. The hydrologic area impacted by the 10/50 line seems to be more stringent for fully-appropriated then it was for over-appropriated.

Maps have been developed that illustrate various standards that were considered and how they could possibly impact water basins in Nebraska. Many of those standards went outside of the NRD boundary lines and into other river basins. NRDs are proud of how they have worked together over the years to address various environmental issues. However, there probably has not been any regulation in the past that will have more of an impact on adjoining NRDs then this proposed standard. If and when the Elkhorn River basin is determined to be fully-appropriated it will be a difficult task to convince residents within their own basin that they are fully appropriated and even more difficult to convince residents outside the NRD boundary line but are included in a designation to understand they have an impact on one or several river basins. Keeping the standard at 28/40 or to the NRD boundary lines would probably be more acceptable to the general public. It would seem that administration and development of the Integrated Management Plans by the NRD and DNR would also be easier if the designated area would be kept within NRD boundary lines.

Streamflow availability and lag effects are important issues that need strong consideration for further studies and understanding. Prior to a basin being labeled fully-appropriated we feel it is important that DNR review past streamflows and potential effects from groundwater pumping to see if they can mirror what is happening today in the streams. Regarding streamflow availability what were surface water appropriators guaranteed when their surface water rights were appropriated? Before giving those rights what type of assessment was performed by DNR to determine if historically the water was there? Does the standard that is being proposed in the proposed Rules and Regulation today follow those guidelines when the surface water right was granted? Projecting lag effects from ground water pumping also appears to be a difficult task to determine with some of the limited geology and hydrology information in some basins. We strongly encourage the DNR to consider these questions and comments.

On behalf of the Upper Elkhorn NRD we want to thank the DNR for holding this hearing and considering our comments.

Submitted by;

Dale Wiles, UENRD Board of Director

My name is Mike Allen, I am testifying on both my own behalf and on behalf of the Nebraska Well Drillers Assn. We share a common interest in working with state agencies, legislators and other stakeholders in formulating public policy to protect the waters of Nebraska while promoting beneficial access to this resource based on sound science and local control.

The Nebraska Well Drillers Assn serves as a valuable resource in providing technical information on the aquifers of this state. I have been serving for the past 6 years as the manufacturer's representative to the Water Well Standards and Contractors Licensing Board, I also serve on the Nebraska Water Resources Assn. Board of Directors, the Technical Advisory Committee to The Ground Water Foundation, and I am on the steering committee for the Nebraska Policy Institute's study on the Economic Importance of Irrigated Agriculture to Nebraska's economy. Most recently I served representing the Nebraska Well Drillers Association on the Negotiated Rulemaking committee for LB962.

Having participated in the rule-making process I (we) are not as concerned with the rule(s) itself, as the application of the rule(s) and the information that will be used to support it. There are certainly aspects of the proposed rules the Nebraska Well Drillers Assn and I do not agree with, such as using overly simplified models and abandoning the current 28% in 40 years depletion line that has been the standard for policy decision-making for the past 10 years. However, we realize that this effort is a compromise and that we do not live in a perfect world so that some reliance on generalized modeling will have to be done.

Our primary concern is that too much reliance will be placed on "generated information" (not necessarily science), that does not accurately reflect the true relationship between the surface waters and ground waters that make up Nebraska's hydrologic climate.

Therefore, we take exception to any interference criteria as it relates to both current impacts and future lag effect impacts unless methods used to arrive at determinations are calibrated and validated against historical stream flow (and other) data.

Further, we take exception to any rule or consequence resulting from rules or regulation that adversely affect the property rights and freedoms of citizens of this state without reasonable scientific proof, beyond the speculative assumptions generated by excessive reliance on modeling techniques. Again, the criteria used for decision-making must be validated with historical information.

The social, environmental, and economic importance of this resource is simply too important to be jeopardized by convenient political solutions. Contrary to the environmental politically correct idealisms of today that it is better to deny all further access to mitigate any damage that may have, or be occurring, it is no less important to consider the economic importance of this resource to the people of Nebraska.

The Nebraska Well Drillers Association will support rules to protect the waters of Nebraska while guaranteeing beneficial access to this resource, as long as these same rules are supported by science that can be verified by empirical data.

August 11, 2005

RE: Testimony to Nebraska Department of Natural Resources concerning proposed "Rules and Regulations on determining whether a basin is fully appropriated.

Director Patterson and Deputy Director Bleed, my name is Eric Alm. I am a Director of the Lower Platte North NRD and Chair of our Water Committee. Our District proposes three changes to your proposed rules and regulations.

By motion and with a unanimous vote, our Board wishes to go on record opposing the portion of the proposed rules and regulations which would set the standard at 10% depletion over a 50 year time span. Past history in Nebraska and settlement of interstate compacts, have never used any standard except 28% depletion over 40 years. We do not wish to change the rules in the middle of the game especially with out a good reason.

Second, we feel boundary lines should stop at NRD boundaries when both NRDs are declared fully or over appropriated. There is little incentive for an NRD to enforce regulations from another District. We will do our job if reasonable rules govern us.

Third, we propose that integrated management plans be designed to protect surface water rights which exist 90% of the time. In the case of the Lower Platte River Instream Flow Right the cubic feet per second rate was set at 20% of the historical seasonal flow. We find it unfair to ask us to protect to a level which is only present once every five years.

Respectfully submitted,

Eric Alm – Director
Lower Platte North NRD

NEBRASKANS FIRST

Protecting Nebraska's Groundwater for Agriculture

TESTIMONY OF NEBRASKANS FIRST EXECUTIVE DIRECTOR DON ADAMS BEFORE THE DEPARTMENT OF NATURAL RESOURCES ON THE PROPOSED RULES REGARDING FULLY APROPRIATED BASINS PURSUANT TO LB 962

August 11, 2005
Kearney, Nebraska

In last Sunday's *World Herald*, outgoing Department of Natural Resources Director Roger Patterson said this about his proposed rules on declaring fully appropriated basins, "People are going to hate it." I am here today to validate Mr. Patterson's assessment.

Back in September of 2003 the Water Policy Task Force, which is co-chaired by Mr. Patterson, issued a press release that included a promise to Natural Resources Districts and irrigators that the Task Force would not seek a statewide ban on the drilling of new wells. The big headline in the *World Herald* read, "State Says No Ban Planned on New Wells." Task Force co-chairman Senator Schrock said, "The Task Force believes that local control of groundwater by NRDs needs to remain and should not be changed." If the proposed rules which are the topic of this hearing today are adopted, this promise will be broken as the DNR will use these rules to declare virtually all of the eastern half of the state where irrigation is a factor as fully appropriated. Once this happens, an immediate stay on the drilling of new wells goes into effect. The stay will also stop any increase in irrigated acres. Already, most of the western half of Nebraska has been shut down to any new groundwater irrigation development.

Someday before next Friday, Mr. Patterson will sign off on these rules. These rules will then carry the force of law and thereby make the highly controversial LB 962 far worse than ever contemplated by the Task Force or anyone else. Then, next week, Mr. Patterson will leave state government and become a private consultant. It is because of this situation that Mr. Patterson should not be making this decision on these proposed rules that he alone developed, contrary to the wishes of a committee he convened to develop a fair set of rules for all concerned. This committee was eliminated by Mr. Patterson when it refused to reach consensus on Mr. Patterson's proposals.

There is absolutely no need whatsoever to force these rules upon us now, other than the fact that Mr. Patterson is leaving and wants the matter settled.

These rules involving the connectivity of groundwater and surface water, the so-called lag effect and the standard of surface water appropriations fulfillment are purely arbitrary and woefully lacking a basis in sound science. These rules involve over reaching

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because they will allow state intervention and control into areas of this state where there are no problems even remotely akin to the problems western Nebraska is experiencing, due to the prolonged drought. In the west, these problems are being aggressively dealt with by the NRDs out there. These rules are extreme because they will adopt a standard of groundwater-surface water connectivity that is way out of line with the so-called 28%-40 years standard that has been the recognized and accepted standard for at least the past thirty years.

These rules will harm our agricultural based economy, and effectively put a big CLOSED TO NEW BUSINESS sign up. In a state like ours where irrigation is a necessity, not a luxury, these rules make no economic sense. The livelihoods of hundreds of thousands of Nebraskans who are directly or indirectly dependent on irrigated agricultural production will be impacted. Our groundwater is a resource that must be used to generate new wealth that enhances land values, sustains our local tax bases and maintains our high quality of life.

Wise management of our groundwater requires that in dry periods we draw upon and even draw down the aquifers, and use the water for a beneficial purpose so later recharge can occur during wet periods. Mother Nature allows for this give and take.

These rules will essentially turn our groundwater into stone. Farmers who have invested in irrigable land with the hope of someday putting in a well to irrigate their land will be hung out to dry. This devaluation of their property right is a serious matter and flies into the face of the correlative rights—share and share alike doctrine that has been the law of Nebraska since the advent of groundwater irrigation. These extreme rules will allow the DNR to control the means of agricultural production. This is not a good thing.

It is imperative right now that Governor Heineman intervene and instruct the DNR to go back to the negotiated rulemaking committee and develop some new rules that are reasonable, less intrusive, and not harmful to the economy and our producers. This matter is of such importance that the governor's intervention is desperately needed right now.

Finally, holding these kinds of hearings during prime irrigation season is so unfair to all those who will be most affected by the government action at issue. Additionally, we wonder why only one public hearing is being held on such an important statewide issue. Our government should operate in slightly more fair and accommodating manner.

Don Adams

Don Adams
Executive Director

My name is Duane Filsinger, General Manager of the Lower Niobrara NRD. I want to thank you for the opportunity to speak this morning.

First I want to say that the Lower Niobrara supports the testimony that Mr. Dave Nelson gave on behalf of the Nebraska Association of Resources Districts. We have a concern that:

> For the last ten (10) years or more we have been led to believe, based upon policy discussions and decisions, that forty years and twenty-eight percent depletion would be the standard that would constitute any boundary for regulation.
>
> The 28% in 40 Year concept was outlined in the 1981 Missouri River Basin States Association study
>
> The 28% in 40 years concept used in the Nebraska v. Wyoming case as the boundary
>
> The 28% in 40 years line used in the extensive discussions in the development of Nebraska's New Depletion Plan for the Platte River Cooperative Agreement and in fact is the boundary used in that plan
>
> Natural Resources Districts have used the 28% in 40 years line for temporary well drilling suspensions
>
> The 28% in 40 years line was used by the Department of Natural Resources for the boundary of the over-appropriated area of the Platte River

The concept of changing to 10% over 50 years to us is like changing direction in mid-stream. If we change to the 10/50 designation we feel more acres in the state of Nebraska will move from under to fully appropriated. This will cause the NRD's to have additional acres to manage. Add additional staff, which is additional cost and have acres

that in our case, drain into the Niobrara River affected by a ruling on the Elkhorn River Basin. The changes that I have just mentioned are unnecessary.

The Lower Niobrara is currently working with the Department and we strongly urge that DNR use the 28/40 line for all designations in the future.

Good morning, I am Clint Johannes of Columbus, Nebraska, Assistant General Manager of the Nebraska Electric Generation & Transmission Cooperative, Inc. (NEG&T). I also am a member of the Water Policy Task Force representing power as well as current chairman of the Lower Platte North NRD Board of Directors and member of the Natural Resource Commission.

The NEG&T Board at their June 24, 2005 Board meeting discussed the rules being proposed for basins determined to be fully allocated and unanimously passed a Resolution. I will provide a copy of the Resolution #BD05-04 along with my June 27, 2005, letter transmitting the Resolution to Roger Patterson.

I would like to expand some on the comments in the Resolution in two general areas.

We support the LB962 proactive approach and want to avoid having the remaining portion of the State becoming over allocated; however, we feel strongly that the 28/40 boundary should be the standard used. It was the only boundary discussed with the Water Policy Task Force and the Task Force was led to believe this was the standard to be used.

Broadening the boundary to 10/50 in the remaining portion of the State where determination of "fully allocated" is to be made before Jan. 1, 2006, will result in many wells being located in 2-4 hydrologically connected basins. This large "overlap" will lead to problems. NRD's will be forced to have the same Integrated Management Plans and lose necessary flexibility.

It will be more difficult to explain and get public support. This "overlap" issue has never been a problem in the currently fully or over allocated areas of the Republican and Platte.

Because of the geology and probably the tighter web of tributaries in east and northeast Nebraska, the 28/40 boundary could generally result in the entire area being hydrologically connected. The 10/50 causes more overlap.

It would be most logical and easier to explain if the NRD boundaries were used for the fully allocated boundary. There is not sufficient science or information to be so accurate that NRD boundaries would not be a satisfactory proxy.

Many of the proponents of the 10/50 boundary are not involved in the areas where the determination is to be made and are in the already fully or over allocated areas where 28/40 was used.

The second area of concern in the proposed rules is how in-stream flows are used in the fully allocated determination.

When these flow rights were granted, most flows were expected to be available only about 20% of the time. This should be the same standard used in the determination. If calls were made on junior rights in the past for flows needed above the 20%, this was also wrong.

Thank you for the opportunity to provide our comments and concerns. We respectfully request that you make modification to the proposed rules to respond to these concerns.

NeCGA
Nebraska
Corn Growers
Association

Testimony provided by Nebraska Corn Growers Association

TITLE 457, Rules of Surface Water, Chapter 24

August 11,2005

The Nebraska Corn Growers Association would like to enter into testimony our organization's position on Rules Regarding the Determination of Fully Appropriated River Basins as presented in the proposed rules. NeCGA has and continues to support the basic concepts and intent of the Governors Water Task Force and LB 962 over the past years. We believe in the need to develop and implement a rational, state wide water management plan for the state of Nebraska. The resources and people that have been engaged in this entire process should be commended for their hard work to move the process forward.

The two areas we would like to address are in Sections 001.02 and 002 of Chapter 24 of the proposed rules. NeCGA is opposed to the 10-percent/50-year as proposed. Rather, we would support the 28-Percent/40-year line. We believe, for several reasons, that this is an acceptable rule which has been utilized and provides a more clear definition. The 28/40 has been accepted as a standard since used in the 1981 Missouri Basin States Study and further implemented in the Wyoming vs. Nebraska Agreement, Platte River Cooperative Agreement and the Department of Natural Resources for areas of over-appropriation of the Platte River.

The complexity of the issue and ever changing nature of hydro-geography will lead to margins of error in the process, which is understandable. This, along with the boundary lines that will intersect and create crossover among Natural Resource Districts, Counties, and in some cases individual farming operations, make the proposed 10/50 rule unacceptable.

The second area of concern addresses the information which will be implemented into the process. We support the outlined rule and agree that the best available science-based information should be utilized in the determination. NeCGA believes that as this process is on going, there needs to be a more transparent component utilized which allows for independent review by credible outside parties to provide a checks and balances component to the system.

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NEBRASKA ASSOCIATION OF RESOURCES DISTRICTS

August 11, 2005

SUBJECT: DNR Rules & Regulations on Determining Whether a Basin is Fully Appropriated.

My name is Dave Nelson (SPELL OUT), Tri-Basin NRD Director and President of the Nebraska Association of Resources Districts (NARD). I am presenting testimony today on behalf of NARD and Nebraska's natural resources districts. I would like to thank you for providing me with this opportunity to comment on the proposed rules.

The NARD Board of Directors reviewed the proposed regulations during their June board meeting and identified several problems with them.

Our primary concern with the rule is the use of 10% depletion in 50 years as a standard for delineating fully appropriated river basins. We believe this is an unworkable standard to use when making determinations and implementing corresponding local NRD rules and regulations. All other determinations of hydrologic interconnection between groundwater and surface water made by the State of Nebraska in the past have used the standard of 28% in 40 years. Following are just a few examples of the uses of this standard:

- Nebraska's New Depletion Plan for the Platte River Cooperative Agreement uses 28/40 as the management boundary. This standard has been a feature of this management plan since the first drafts were written in 1998.
- Nebraska agreed to use 28/40 as a boundary in the Nebraska vs. Wyoming settlement.
- The Department of Natural Resources used the 28/40 boundary for over-appropriated parts of the Platte River shortly after the passage of LB 962.
- During the discussions of the Water Policy Task Force in development of LB 962, task force members were led to believe that 28/40 would be the standard that would constitute any boundary for regulation.

To change the standard now to 10/50 creates several problems for local administration of integrated plans. These include, but are not limited to the following examples.

- **The 10/50 line goes beyond NRD boundaries.** This creates several problems. First, the line would go beyond district boundaries in several areas of the state. In several situations it goes beyond river basin boundaries. Using the 10/50 standard, DNR would ask an NRD to regulate ground and surface water in the Platte Basin to benefit water users in

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the Loup Basin. It also creates a situation where districts in the Loup Basin could be asked to develop plans to manage for drainage in the Elkhorn Basins. The problem to overcome is that the Platte is not a tributary of the Loup and the Loup is not a tributary of the Elkhorn, nor does groundwater generally move from the Platte to the Loup Basin or from the Loup to the Elkhorn Basin. NRDs will have a difficult task convincing constituents to accept regulations that appear to defy common knowledge of groundwater and surface water movement.

- **NRDs in the Platte and the Upper Niobrara White basins are in the process of developing management plans.** Using this rule, any interested party could request that the district's integrated management boundaries be re-assessed. This rule would also make districts go back to their constituents to explain that the scope of regulations have changed since 28/40 lines were established just 2 years ago. Stakeholder groups have already been established and plans are being developed. A change to 10/50 could cause the districts to start over with the plans.

Part of the apparent motivation of some proponents of 10/50 and other broader standards for interconnection is an unfounded concern that NRDs will not regulate water use out to district boundaries. On the contrary, NRDs have already gone beyond the Department's requested regulatory boundaries. For example, the Upper Niobrara-White NRD board of directors chose to include their entire district in their management plans rather than leaving a portion out as suggested by DNR. The North Platte and South Platte NRDs have also expanded management beyond the 28/40 line to address other concerns. Other NRD boards will also likely take a comprehensive approach to integrated water management within their districts.

NARD recommends a change to the proposed rule to address these concerns. The logical choice would be to use the 28/40 line for all fully appropriated basin designations. This would keep the regulation consistent with past determinations. We also recommend that fully appropriated designations stop at NRD boundaries or river basin boundaries to avoid problems regulating water users in one river basin in an attempt to benefit water users in other basins.

Another concern with the proposed regulations is that there is no standard for determining whether instream flow water rights are being satisfied. When instream flows for fish and wildlife were granted on the Platte River in the 1990's, an agreement was reached that groundwater would not be regulated for the management of the instream flow. This compromise was reached because some of the instream flows granted occurred as infrequently as 20 percent of the time.

LB 962 allows all water users to be regulated for instream flows, but it is not mandatory. We do not believe that it is reasonable to require NRDs to manage groundwater use to protect flows

that occur only 20 percent of the time. Therefore, we recommend that integrated management plans be designed to protect only those surface water rights that rely on streamflows that occur at least 90 percent of the time. This is an attainable goal.

Another problem with the regulations is the standard of accounting for lag effect of groundwater pumping. The proposed 25 year lag effect standard is too long a period to expect to be able to estimate with any degree of certainty due to changes in crop patterns, farm programs, weather, water use and a host of other hydrologic factors. We do not believe that the best computer hydrology models are accurate enough to estimate lag effect over that time period. Furthermore, we don't believe that it is necessary to make such speculative estimates when LB 962 requires DNR to annually review the level of water use in Nebraska river basins. Thus, we recommend dropping that portion of the rules.

Finally, groundwater recharge from stream flows is not addressed in the regulations. The rule assumes that all portions of rivers are gaining streams. Hydrology does not support that assumption. Nebraska streams have both gaining and losing segments. The losing segments provide groundwater recharge and are not considered. Surface water diversions impact groundwater recharge. However, these factors are not considered in this rule. Thus, we suggest that these factors be accounted for.

We want to work with the Department and others to make the reasonable changes that we have proposed to the final rule.

Respectfully,

Dave Nelson
NARD President

LOWER ELKHORN NATURAL RESOURCES DISTRICT

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TESTIMONY PROVIDED TO NEBRASKA DEPARTMENT OF NATURAL RESOURCES REGARDING PROPOSED RULES FOR THE DETERMINATION OF FULLY APPROPRIATED BASINS - Pursuant to Neb.Rev.Stat. 46-713

Thank you for the opportunity to testify today. Providing comments to you on behalf of the Lower Elkhorn Natural Resources District Board of Directors, I am Stan Staab, General Manager for the District. I wish to make it very clear that our NRD recognizes the importance of LB 962 and we intend to fully comply with the law. However, these rules and regulations as written by DNR are extremely important to our Basin and the future of our citizens.

In our opinion, these rules and regulations should contain sufficient detail to be properly interpreted but your current language does not provide adequate definition to accomplish this. We respectfully request that DNR consider our comments, provide appropriate answers to our questions and revise these rules and regulations accordingly.

If our Basin is deemed to be "Fully Appropriated " on January 1st, 2006 (or at any other time) the Lower Elkhorn NRD strongly supports the 28 / 40 rule over the 10 / 50 rule. We believe this is a fair and consistent standard. In addition, we are providing the following concerns in order of priority:

Availability of Stream Flow: We question the basis for utilizing the junior surface water rights to determine the availability of stream flow. DNR currently performs no assessment of historical availability of stream flow prior to granting rights and provides no guarantee to landowners that any amount of this right will be available. Thus, a basin could be fully appropriated when there is no groundwater use. We suggest that an assessment of stream flow data prior to large-scale groundwater development (of groundwater in the 1970's) should be performed to determine IF ON AVERAGE 85% (May 1 through September 30, inclusive) and at least 65% (July 1 through August 31, inclusive) would have been available to junior surface water users.

Non-irrigation Rights: DNR should define All Types of non-irrigation rights and their complimentary "standard of delivery"

appropriate for each use. In much of eastern Nebraska, definition of "standard-of delivery" for in-stream flow rights could most likely have a serious impact on basin designations.

When the in-stream flow right was granted in 1996, there was an agreement between DNR, Nebraska Game and Parks, NRDs, and other affected users that groundwater would not be regulated for the management of that specific in-stream flow right. To honor this agreement, we strongly feel this in-stream flow right should not be considered when calculating the availability of stream flow.

Hydrologic Connection: Your rule proposes the area that DNR preliminarily considers surface water and groundwater to be hydrologically connected will be defined by results of an undefined stream depletion method. These methods do not define areas that are hydrologically connected. Aquifer boundaries, confining units, streambed hydraulic conductivity, etc. define hydrologic connection and must be utilized in any determination.

Sound Science to be Considered: We suggest the source of information to be used should be prioritized in order to assess the weighting of importance applied to data sets, reports, maps, and models. We suggest the addition of a footnote that references all available listed information and complete data sets that insure future determinations. We suggest all historical surface water and groundwater data be used to confirm projected impacts of stream flow depletion, as well as to confirm the impact existing wells have already made on stream flow.

We request written answers to the following questions, ordered by paragraph:

Paragraph 2

- What is the "lag effect", and how is it calculated?
- Why is there a difference between "**on average** eighty-five percent" and "**at least** sixty-five percent"?

Paragraph 4

- When evaluating availability of stream flow over the previous 20 years, will DNR use the current (2005) list of junior right holders, or will they use junior right holders that existed at that time in the past?
- What is the definition of "junior rights"?
- Will the data considered in the previous 20 years be used to calibrate the prediction of the next 25 years?

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- Could any one-year in the past 20 years (or the next 25 years) trigger a fully appropriated status?
- We also question the selection of using a depletion of 10% of the amount pumped. What is the technical basis for selecting this percentage? Especially when it varies from the 28% that was utilized to define areas that were considered over appropriated.

Paragraph 5

- Will the preference system related to water use be taken into account when "standards-of-delivery for non-irrigation water rights" are defined?

Paragraph 6

- The last sentence talks about priority of use. What does the term priority mean in this case? Does it refer to first-in-time, first-in-right, or does this mean that groundwater and surface water are equal?

Paragraph 7

- We question the proposal of considering lag effect of wells over the next 25 years and defining a 50-year stream depletion factor. What is the technical basis for selection of these variable time frames? (Note: Harry Weakly performed a drought study based on tree rings in Nebraska [Journal of Soil and Water Conservation, November-December 1962]. He concluded that from 1220 to 1952, there was an average of 23.9 years between droughts and with an average duration of 12.8 years.)

General Question

- Why is there no explanation of Section 46-713(3)(b)? Will groundwater that relies on stream flow be adequately protected by these rules?

Again, thank you for conducting this important hearing and receiving our comments and questions.

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My name is RAY WINZ (SPELL), Tri Basin NRD. Director, a member of The Governor's Republican River Council past and an active farmer in South Central Nebraska.

Thank you for the chance to comment on proposed rules.

I am appalled by the never ending adulterous changes which occur in the time between what we have talked about, discussed and promised and when we get to the near end of several rule making processes! last.

The 28/40 have been the standard used in many, many meetings and used as the guidline in plans.

Only when the so called Best models failed to dictate the political aspired curtailment of ground water pumping, was the 10/50 idea brought forward.

Not only would a 10/50 plan be publically unacceptable in the agriculture segment it may have devastating economic affects in rural Nebraska.

It would also be nearly impossible to administer by the NRD's as it would cross

many NRD lines as well as basin lines which have no connection in water flows.

The Nebraska NRD's which are esteemed as the best soil + water entity's in the United States would be questionable at best!

The 25 year lag effect is about as reliable as the 30 day weather forecast and totally unnessasary when the annual review can be based upon attainable accurate information.

We, as agriculturists, with our son's and grandson's beside us every day are more concerned about our groundwater being sustainable and pure and useable, than anyone in these United States.

I have attended many national Conventions which have water and soil conservation forums. FB-GMDA. Every time the Nebraska NRD's are raised up at the best of all states groups as the best in the United States.

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Testimony - Rules Regarding the Determination of Fully Appropriated River Basins
8-11-05

My name is Don Kraus, General Manager of the Central Nebraska Public Power and Irrigation District. I appreciate the opportunity to provide comments today for the Negotiated Rulemaking process to develop Rules Regarding the Determination of Fully Appropriated River Basins pursuant to Neb. Rev. Stat. 46-713.

Nebraska statutes, section 46-713(3) provide a definition of when a basin should be considered fully appropriated. The statute requires an examination of the current uses to determine if there will be impacts to surface water supplies over the long term that would not allow the beneficial uses of the surface water right to be maintained. In order to determine what the beneficial uses are, one must look at the water supply available when the water right was granted. The state has a responsibility to develop rules that protect that water right from depletion in future years in areas that have not yet been designated as fully or over-appropriated.

The proposed rules use a methodology which looks at the flow available to meet a crop irrigation requirement to determine whether a basin is fully appropriated. In a letter dated May 2, 2005 I raised concerns regarding these issues and I will not repeat those comments in this testimony. Instead, that letter is attached to my comments today.

I am testifying today to support protection of surface water rights. We are in the midst of an extreme drought currently in its sixth year and Lake McConaughy reached its lowest level in its 65 year history last September. The Central District reduced deliveries of surface water to its irrigators this year to approximately 37% of normal scheduled deliveries due to the reduced inflows over the past five years. While we have taken a number of measures to conserve water, groundwater pumping has continued without any restrictions which would benefit surface water flows even though we estimate the impact to ~~be over~~ 100,000 acre feet per year. The integrated management plans for the area will have to find ways to significantly reduce impacts to stream flow in order to meet the intent and requirements of LB962.

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100k

The State of Nebraska has a responsibility, under LB962, to implement rules that avoid conflicts with surface water users and groundwater users. A number of individuals and organizations have proposed weakening the definition of the hydrologically connected area to allow depletions of surface water right flows by an average of 28% over a 40 year period. The amount of water depleted from the river in the 40th year would be approximately 50% of the amount pumped. This does not meet the standard of avoiding water user conflicts and providing a sustainable use for the future. Furthermore, it does not protect surface water supplies or meet a fairness test.

The Department of Natural Resources (Department) has proposed a rule which would define the geographic area to be considered as an area within which a well pumping for 50 years would deplete surface water flows by 10% of the water pumped. This is more appropriate and provides greater protection than the 28%/40 year proposal endorsed by

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others. However, a rule providing even greater protection would have been better. The Department needs to analyze the potential effects of the rule and ensure that the impacts to surface water rights are deminimus.

Concerns regarding management complexities where a proposed geographic boundary crosses a Natural Resource District boundary are important but do not justify weakening the protection provided to surface water rights. The State of Nebraska should use the best scientific information available to implement management of its water resources. The NRD's have a responsibility to cooperate with each other and with the Department to meet the intent of Nebraska statutes.

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Exhibit 35

CENTRAL
Nebraska Public Power and Irrigation District

VIA FACSIMILE

May 2, 2005

Ms. Ann Diers
Legal Counsel
Department of Natural Resources
301 Centennial Mall South, 4th Floor
P.O. Box 94676
Lincoln, Nebraska 68509-4676

RE: Negotiated Rulemaking Committee Report and Draft DNR Rule

Dear Ms. Diers:

The following comments are provided in response to your letter dated April 22, 2005 requesting comments from participants in the Negotiated Rulemaking Process:

Comments – Draft Report

The letter indicates that the group reached consensus on the types of data needed for the determination of a fully appropriated basin (Paragraph A, items 1 through 9) and on the first paragraph of B and C. I have reviewed the report and do not believe consensus was reached on the first paragraph under Paragraph B. The comments of a number of individuals supported a concept that focused on the amount of water available when the appropriation was granted with any decrease in water supply triggering a "fully appropriated" status. The first paragraph of B would be consistent with that analysis except for the sentence – "Third, assuming that when a junior appropriator is allowed to divert they could divert at their permitted diversion rate, the analysis should determine what percentage of crop irrigation requirement for corn could be met by these diversions."

I believe analysis should stop when the amount of flow at the permitted diversion rate has been determined and the impacts of existing and future development have been analyzed. The proposed additional analysis is unnecessary and in fact could result in a further reduction in water supply available for a surface water appropriator.

I do not believe consensus was reached on the first paragraph of Section B and do not support that language, but do support Paragraph A, items 1 through 9 and the first paragraph of section C.

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Comments on Draft Rule

1. I believe the number of years analyzed should be greater than 25 years. The use of the shorter period may be supported from the perspective of "accommodating new development" but the effect will likely be a reduced supply of water for surface water users or additional funding from the Legislature may be needed to offset the impacts. I would support a time frame of 50 years in the analysis.

2. The criteria proposed by DNR incorporates the concept that the water supply must be available to meet 90% of the crop irrigation requirement. This does not consider that the appropriation may have only supplied 80% of the crop irrigation requirement when granted. I believe the criteria should focus on depletions to existing appropriations with an area selected to ensure impacts would be minimal. If there are existing depletions or expected depletions to existing appropriations which exceed a "deminimus amount", after considering the lag effect and new development, the basin should be considered fully appropriated.

Sincerely,

Don Kraus

Don Kraus, P.E.
General Manager

32-A

nebraska farm bureau federation
5225 S. 16th St., P.O. Box 80299, Lincoln, NE 68501 Phone: (402) 421-4400, FAX# (402) 421-4432

August 11, 2005

Mr. Roger Patterson
Director, Dept. of Natural Resources
P.O. Box 94676
Lincoln, NE 68501

Dear Mr. Patterson,

The Nebraska Farm Bureau Federation (NFBF) would like to offer these comments on the Department of Natural Resources' (DNR) proposed rule pursuant to Neb. Rev. Stat. Section 46-713 regarding the designation of fully appropriated basins. We appreciate the opportunity to provide comments and the opportunity to participate on the negotiated rule making committee.

1. Statute requires DNR to use the best scientific data and information readily available at the time the fully appropriated determination is made. NFBF believes the list of data in the proposed rule sufficiently meets the statutory requirement. We would suggest the list include an item to incorporate other data deemed relevant by the DNR when a determination is made. Such an all-inclusive item would eliminate the need to amend the rules to incorporate other data and information each time the department is made aware of some new source of information or data. The DNR should also list the data and information it relied upon to make a determination in the annual report.

2. NFBF can accept the interference criteria based on a crop irrigation requirement during a typical irrigation season and critical irrigation period in the proposed rule. The interference criteria seems reasonable to us and assures that sufficient water on average will be available for irrigation. We encourage the DNR to monitor changes in cropping patterns and to take into account historical records of flows that existed at the time rights were granted when developing the criteria.

3. NFBF can accept a 25-year time period to estimate lag effects from existing groundwater pumping. However, we continue to have concerns with how lag effects and stream flow depletions will be calculated. Changes in cropping patterns, weather, and water use, among other things, influence the impacts groundwater use has on stream flow depletions. For example, it is our understanding the COHYST study has found high water table ET can significantly influence impacts to stream flows. Because of these variables, accurate estimates of stream flow depletions can be difficult. Moreover, time and budget constraints on DNR will limit the agency's ability to accurately determine stream flow depletions. NFBF believes DNR should utilize sound science and the best methodology and techniques available when calculating lag effects. DNR should clearly outline the methodology it uses in the report required under Neb. Rev. Stat. 46-713. The outline of the methodology should be of sufficient detail to allow for review and

duplication by independent parties. Such transparency will ease concerns producers may have regarding the science and methodologies employed by DNR and its conclusions.

4. NFBF continues to have concerns with defining the hydrologically connected area as the area within the 10%/50-year line. NFBF policy calls for a careful balancing of both ground water and surface water user interests in an integrated management system. We both appreciate and recognize DNR's efforts to prevent conflicts and problems in the future and yet provide a standard that is workable. We applaud the goals, and agree with them, but believe the proposed rule could limit groundwater development with little assurance that stream flows or surface water appropriators would benefit.

   NFBF believes defining the hydrologically connected area as the area within the 28%/40-year line would be more appropriate. A 10%/50-year line is problematic for several reasons. First, discussions of the Water Policy Task Force, other decisions, studies and policy discussions have focused on the 28%/40-year line. The 28%/40-year line is politically accepted and widely known among water users. Widening the area beyond the 28%/40-year line will test the credibility and acceptance of integrated management plans and the LB 962 process with irrigators and other users.

   Second, while we believe DNR will use sound science and the best data available, sound science and the best data are not without a margin of error. The relationship of hydrologically connected groundwater and surface water is extremely complex and site dependent. Geology, geography, land use changes, precipitation, and many other variables play a role in defining the relationship. Because of the uncertainties, we believe caution would dictate limiting the geographic area.

   Third, the 10%/50-year line will result in more landowners being subject to multiple fully appropriated designations and integrated management plans. Multiple, overlapping basins and plans will complicate the integrated management planning process particularly when transfers or offsets might be required. Such complications will increase user confusion, uncertainty and frustration in the integrated management planning process. It would be difficult to convince groundwater users in one basin, several miles from a stream in another basin, that they must be part of an integrated management plan to protect stream flows for a stream several miles away. If the 10%/50-year standard is used, we would suggest the hydrologically connected area only include an area that does not overlap into another basin already considered fully appropriated. Thus, landowners would not be subject to multiple designations or plans.

Again, thank you for the opportunity to provide these comments.

Sincerely,

Don Batie,
NFBF State Board Member

Public Hearing Testimony before the Nebraska Department of Natural Resources concerning proposed criteria rules for the determination of fully appropriated basins.

August 11, 2005

I am Roger Houdersheldt, Chairman of the Upper Big Blue NRD Board of Directors, and I am testifying on behalf of the Board about the Fully Appropriated Basin determination criteria rule.

The Upper Big Blue NRD has had a groundwater quantity management area since 1977, encompassing 1,000,000 acres of irrigated lands. That is 15% of the total irrigation in Nebraska. Irrigation is a big deal in our NRD. It is of great economic importance. Groundwater is being used and managed in a sustainable fashion. If in doubt, look at the long term groundwater level changes which show declines and rises and declines and rises. The water table has fluctuated within a range from plus 7 to minus 7 feet over the last 45 years. There is not a long term decline in the Upper Big Blue NRD.

The aquifers in our District are our reservoir, just like a lake behind a dam. In dry years we use some of the water in storage and in the wet years the aquifer is refilled. The problem as we see it is that surface water users and instream flow water right holders expect us not to tap our reservoir. Aquifers must literally run over to satisfy some surface water appropriators. That is like telling surface water users they cannot get any water unless Lake McConaughy is spilling through the morning glory spillway. Our fear has been and remains that state law changes and Department rules and regulations will place virtually all of our reservoir off limits to us. Now maybe you can see why we are very concerned and involved in Nebraska's water policy discussions and formulation.

Criteria for the determination of fully appropriated basins are necessary.

We can live with Rule 001 as proposed, provided that existing groundwater uses in fully appropriated basins are not required to be regulated by State law or Department regulations. That decision needs to remain with the individual Natural Resources District involved in a fully appropriated basin no matter which basin it is within the state.

We support that part of Rule 001.01 dealing with the use of 85% of the crop irrigation requirement during May 1 to September 1 and 65% of the crop irrigation requirement during July 1 to August 15 to determine shortages to junior surface water rights. We think that the 20 year historical record is reasonable because it will include wet and dry weather cycles.

We oppose that part of Rule 001.01 dealing with lag time. We think that lag time should not be used in the determination of fully appropriated basins. It is very confusing and hard to understand. Lag effect has not been adequately thought out or explained. In fact lag time may not make much difference in the end. Since only existing water uses are considered in determining if a basin is fully appropriated, lag time does not matter if the well is pumped continuously. Don't believe us? Dig into COHYST.

For any lag time period chosen there are changing hydrologic effects over time, such as changes in river flows, cropping, weather, and water use which make any predictions suspect. Look at the 20 years you have historical data for, not 25 years ahead that you don't. Experience has shown that the farther out in time a projection is made the farther off the projection will be. We have been there - done that. Missed it by a mile more than once. If you haven't - you will.

The use of lag effect is another attempt to force the restriction of groundwater development when it otherwise would not come under regulation. The Nebraska Supreme Court has said for the 3rd time this year that NRDs handle groundwater regulation not the Department. We cannot tell the Department what to do. And the Department cannot tell us what to do. We must work together in integrated water management.

We like the 5th paragraph of Rule 001.01 which begins with "Use of the method". This paragraph clearly states that there is no priority of use between surface and groundwater. The entire paragraph as drafted needs to be in the final rule.

We oppose the 10% over 50 years boundary in Rule 001.02. For the past several years the Upper Big Blue has been led to believe by studies, decisions, and policy discussions with others including the Department of Natural Resources that the 28% in 40 years line would constitute any boundary for regulatory efforts in the management of hydrologically connected groundwater and surface water.

- The 28% in 40 Year concept was outlined in the 1981 Missouri River Basin States Association study
- The 28% in 40 years concept is used in the Nebraska v. Wyoming case as the boundary
- The 28% in 40 years line is used in the extensive discussions in the development of Nebraska's New Depletion Plan, and in fact is the boundary used in that plan

- The 28% in 40 years line was used by the Department of Natural Resources for the boundary of the over-appropriated area of the Platte River

The 10% over 50 years boundary for the Platte River, as determined by the SDF method, means that a well along the West Fork of the Blue River in Hamilton County would be regulated for the Platte even though the well would be south of the Blue River, south of Lincoln Creek, and south of Beaver Creek, all which drain into the main stem of the Blue River in Seward County. That is unexplainable and unbelievable to our water users, municipal and agricultural alike.

Fully appropriated basin boundary lines that overlap into another surface water river basin are unacceptable to the Upper Big Blue NRD. Boundaries for fully appropriated basins need to be at either the 28% over 40 year line (or whatever number is adopted in Rule 001.02) or the surface water divide, whichever is closer to the river that has the surface water shortages. If the Platte is short of water then groundwater development in the Platte basin within the 28/40 line needs to be regulated. If the Blue River is short of water then groundwater development in the Blue basin within the 28/40 line needs to be regulated. No water use should be regulated by more than one integrated management plan. Integrated management plans need to be restricted just to the surface water basin in question.

We support Rule 002. We think that it is very important for the Department to not only review a NRD's groundwater management plan but also its groundwater regulations. Just because the goals of a set of groundwater regulations do not specifically state that surface water rights are to be looked out for, the end result is that they are positively affected by the regulation of groundwater use.

There is a fiscal impact anytime a basin is declared as fully appropriated. Of course it is not comparable to the economic impacts of reverting to dryland because of severe and long term water shortages. The fiscal impact of these proposed rules include the costs of drafting, negotiating, and implementing any integrated management plan. The fiscal impact also includes the cost of regulating of water users. Even if development is stopped, regulating costs continue.

Thank you for taking the time to listen to our testimony.